

DUDLEY, General Editor. Dioscorides Press, Portland, OR. 1987. Hardbound. \$47.50. ISBN 0-931146-04-6.

For the dedicated student of plant "serpentine" soil endemism, as well as the casual observer, a book such as this one has long been awaited. Because most botanists lack a strong background in geochemistry and geology, few take the time to wade through the appropriate literature in those fields to develop the needed understanding of the ultramafic environment. Robert Brooks has provided an excellent account on the nature of ultramafic rocks and their derived serpentine soils. The first three chapters outline the geochemistry of ultramafic minerals and their derived soils. Chapters 4-6 review the major works on various aspects of plant endemism on serpentine soils including heavy metal accumulation and nutrient imbalances such as calcium and magnesium. The chapter on plant evolution and serpentine is brief and primarily discusses the evolution of plant groups from a global perspective with little information at the species or population level. Dr. Brooks' expertise and personal bias appears in Chapter 8 with an extensive discussion on plant hyperaccumulation of nickel.

The remaining three quarters of the book are dedicated to the serpentine vegetation of the world. There are eleven vegetation chapters beginning with North America and also including tropical America, northwest Europe, central and southern Europe, continental Asia, Japan, Africa, the Malay Archipelago, New Caledonia, Australia, and New Zealand. Each chapter includes the region's geology, vegetation, and important botanical studies. The book is well-illustrated with maps, tables, graphs, and black-and-white as well as color photographs. The photographs have been reproduced very well and clearly illustrate many interesting plants and places. There are three indices: a subject index, a geographical index, and a botanical index. The botanical index is excellent and includes 2,219 species, subspecies, and varieties of vascular plants, mosses, and lichens. This book has brought together a considerable amount of information; most notable are the many international journal articles. This work will undoubtedly be the main reference source for the serpentine plant literature for some time to come.—NIALL F. MCCARTEN, Dept. Biology, San Francisco State University, San Francisco, CA 94132.

*Atlas Cultural de México. Flora.* By JERZY RZEDOWSKI and MIGUEL EQUIHUA. 223 pp. Secretaría de Educación Pública, Instituto Nacional de Antropología e Historia, Grupo Editorial Planeta. 1987. \$8400 (pesos).

This volume comprises part of an Atlas Cultural series. Three other volumes have been published to date: Archeology, Tourism, Handicrafts.

The history of Mexico shows that the Mayans, Toltecs, and other early civilizations had a tremendous understanding and appreciation of plants and were successful in cultivating many of them. Urbanization in modern times has resulted in loss of much of this early knowledge and appreciation. It is the authors' hope that this volume will stimulate local peoples' interest in the plants occurring in the many varied habitats of Mexico as well as to enable visitors to become familiar with many of the plants.

The 621 colored photographs presented in the volume constitute less than 2 percent of the flora of Mexico, but they give an excellent idea of the diversity of the native plants in Mexico. Chapters are arranged under nine vegetational categories: 1) Bosque tropical perennifolio, 2) Bosque tropical subcaducifolio, 3) Bosque tropical caducifolio, 4) Bosque espinoso, 5) Matorral xerófilo, 6) Pastizal, 7) Bosque de coníferas y de encinos, 8) Bosque mesófila de montaña, and 9) Vegetación acuática y subacuática. Two maps serve to illustrate this classification. In addition, five more general groups are presented in separate chapters: 10) Algunos otros tipos de vegetación, como la costera y los palmares, 11) Las malezas, 12) Las plantas del hombre, su historia en México, 13) Plantas que caracterizan específicamente la flora mexicana, and 14) La flora patrimonio de México y del mundo. For each plant illustrated there is a brief description, general distribution, common name, flowering period, uses, and the

highway routes (as shown on an introductory map) where one might expect to see it. Each of these chapters is prefaced with a brief discussion characterizing the vegetational type. Where appropriate, mention is included of man's impact on the area. That preceding Las Plantas del Hombre tells of the beginning of agriculture, domestication of vegetables and precolumbian agriculture in Mexico. The final two chapters stress the distinctiveness and beauty of the Mexican flora and the importance of conservation and of rational use of land rather than its despoilment. Within each chapter there is neither taxonomic nor alphabetical arrangement of the entries, but rather there are pleasing groupings of the many photographs presented. In such a book, no formal taxonomic arrangement would be practical. The volume ends with a two page glossary and an incomplete index to common names with their scientific equivalents.

The problem of common names, as discussed in the Introduction, is well illustrated in the chapter "El Matorral Xerófilo," the most abundant vegetation type in Baja California. The common name given in the *Flora for Olneya tesota* (p. 75) is *palo fierro*, a name applied to that tree in parts of Sonora, but not in southern Baja California where it is aptly called *uña de gato* (cat's claw), and where *palo fierro* is applied to the southern peninsular endemic *Prosopis palmeri*. However, in California and Arizona, the translation "ironwood" refers to *Olneya tesota*. To further confuse the matter, in northern Baja California, California and Arizona, *uña de gato* refers to *Acacia greggii*. Other examples of common name problems in this chapter are: *colorín* (p. 74) which in Baja California refers to *Erythrina flabelliformis*; *pitaya agria* (p. 80) always refers to *Machaerocereus (Stenocereus) gummosus* in Baja California and never to *Lophocereus schottii*; *Palo verde* (p. 82) might be considered a "generic" common name for *Cercidium*, but in Baja California there are four taxa in *Cercidium*, each with its own name: *dipua* for *C. microphyllum*, *palo brea* for *C. praecox*, *palo estribo* for *C. sonorae*, and *palo verde* for *C. floridum* subsp. *peninsulare*. *Torote* (p. 82) is usually applied to species of *Bursera* whereas *Jatropha cuneata* is known as *matacora*. Space limitations in the *Flora* make it impossible, however, to detail such geographic variation in application of common names.

This *Flora* presents an excellent "overview" of the vegetation of Mexico. It merits wide distribution within Mexico and should be readily available to those visiting our neighbor to the south. At the present value of the peso, it is practically a "give-away". It is to be hoped that some adjustment can be made. — ANNETTA CARTER, Herbarium, Department of Botany, University of California, Berkeley 94720.

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